Gulf of Mexico Harmful Algal Bloom Bulletin

Region: Texas

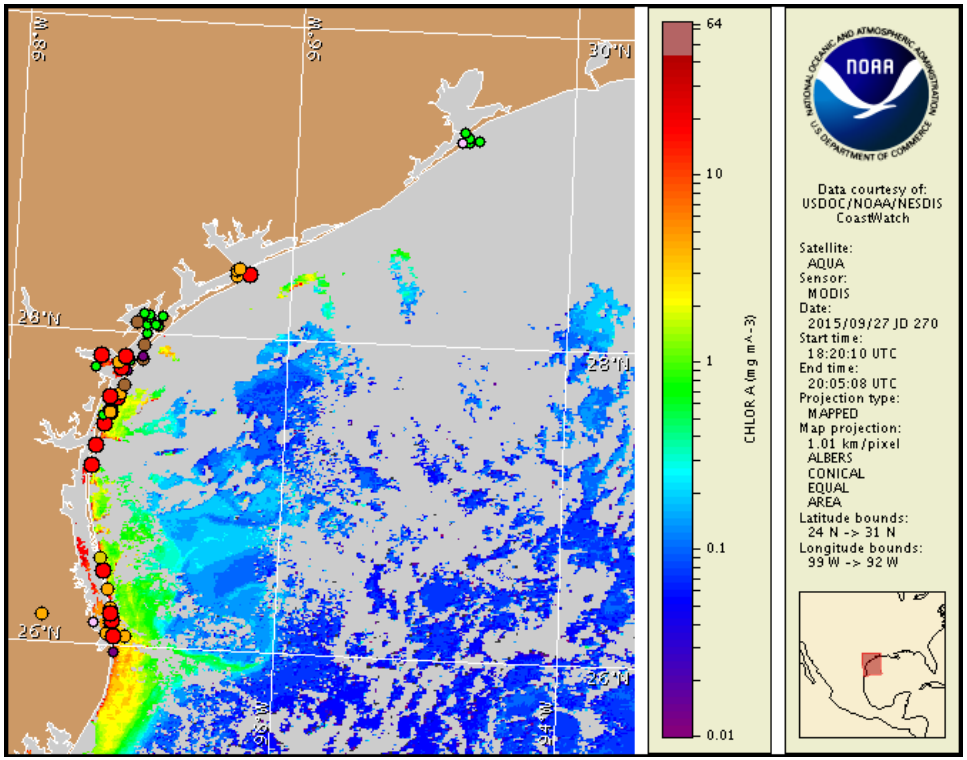
Monday, 28 September 2015

NOAA National Ocean Service

NOAA Satellite and Information Service

NOAA National Weather Service

Last bulletin: Thursday, September 24, 2015



Satellite chlorophyll image with possible *K. brevis* HAB areas shown by red polygon(s), when applicable. Points represent cell concentration sampling data from September 18 to 28: red (high), orange (medium), yellow (low b), brown (low a), blue (very low b), purple (very low a), pink (present), and green (not present). Cell count data are provided by Texas Parks and Wildlife Department. For a list of sample providers and a key to the cell concentration categories, please see the HAB-OFS bulletin guide:

http://tidesandcurrents.noaa.gov/hab/habfs_bulletin_guide.pdf

Detailed sample information can be obtained through the Texas Parks and Wildlife Department at:

http://www.tpwd.state.tx.us./landwater/water/environconcerns/hab/redtide/status.phtml

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To see previous bulletins and forecasts for other Harmful Algal Bloom Bulletin regions, visit the NOAA Harmful Algal Bloom Operational Forecast System bulletin archive:

http://tidesandcurrents.noaa.gov/hab/bulletins.html

Conditions Report

Karenia brevis (commonly known as Texas red tide) ranges from not present to high concentrations along the Texas coast from Galveston Bay to the Rio Grande. *K. brevis* concentrations are patchy in nature and levels of respiratory irritation will vary locally based upon nearby bloom concentrations, ocean currents, and wind speed and direction. The highest level of potential respiratory irritation forecast for Monday, September 28 through Thursday, October 1 is listed below:

Region: Forecast (Duration)
Matagorda Peninsula region: Low (M-Th)
Bay region-Matagorda Bay: Moderate (M-Th)
Bay region-San Antonio Bay to Espiritu Santo Bay: Moderate (M-Th)
Bay region-Aransas Bay to Aransas Pass: High (M-Th)
Bay region-Corpus Christi Bay: High (M-Th)
Aransas Pass to PINS region: High (M-Th)
Bay region-Upper Laguna Madre: High (M-Th)
Padre Island National Seashore region: High (M-Th)
Mansfield Pass to Beach Access 6 region: High (M-Th)
Bay region-Lower Laguna Madre to Laguna Vista: Moderate (M-Th)
Beach Access 6 to Rio Grande region: High (M-Th)
All Other Texas Regions: None expected (M-Th)

Check http://tidesandcurrents.noaa.gov/hab/beach_conditions.html for recent, local observations. Respiratory irritation has been reported from Mustang Island, PINS, and South Padre Island. Several fish kills are being investigated.

Analysis

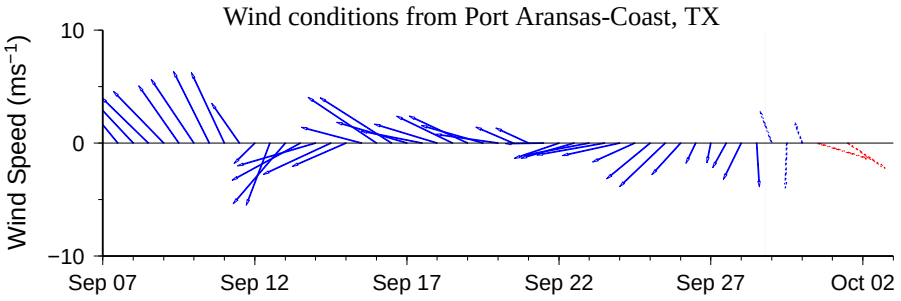
Karenia brevis concentrations range from 'not present' to 'high' from Galveston Bay to the Rio Grande. In the Galveston area, recent sampling from the Imaging FlowCytobot at Pelican Island identified background *K. brevis* concentrations (TAMU; 9/22-28). All other samples collected in the Galveston/Bolivar Roads Pass area indicate that *K. brevis* is not present (TPWD; 9/21). In the Pass Cavallo area, 'medium' *K. brevis* concentrations were identified near Port O'Conner at Dolphin Point Marina and the Little Jetties, as well as within Saluria Bayou on the eastern edge of Espiritu Santo Bay (TWPD; 9/21). 'High' *K. brevis* concentrations were identified alongshore Matagorda Island at the mouth of Port O'Conner Big Jetties (TPWD; 9/21). Several samples collected alongshore PINS from mile markers 0, 10, and 18.8 continue to identify 'high' *K. brevis* concentrations throughout the region, with 'medium' concentrations identified alongshore the PINS north border (TPWD; 9/23). One sample collected from PINS Bird Island Basin in the Upper Laguna Madre continues to indicate that *K. brevis* is not present (TPWD; 9/23). Recent samples collected alongshore South Padre Island from 3-25 miles north of beach access road 6 identified 'low b' to 'high' *K. brevis* concentrations (TPWD; 9/24). 'High' *K. brevis* concentrations were also identified along South Padre Island at beach access roads 5 and 6 (TPWD; 9/24-26) and at the Brazos Santiago Pass north jetty (TPWD; 9/25). Concentrations along the south side of Brazos Santiago Pass remain at 'medium' (TPWD; 9/24-25). Samples collected throughout the Lower Laguna Madre range from background to 'medium' *K. brevis* concentrations, with the highest concentrations identified along the west side of the Queen Isabella Causeway (TPWD; 9/24-26). Recent

sampling from Texas A&M University's Imaging FlowCytobot, located on the Port Aransas ship channel, shows 'very low a' to 'low b' concentrations of *Karenia brevis* (TAMU; 9/21-28). Respiratory irritation has been reported from Mustang Island, PINS, and South Padre Island (TPWD; 9/22-26). Fish kills are currently being assessed from the Upper Laguna Madre, Mustang Island, Port Mansfield, and Padre Island regions (TPWD; 9/25). For information on area shellfish restrictions, contact the Texas Department of State Health Services.

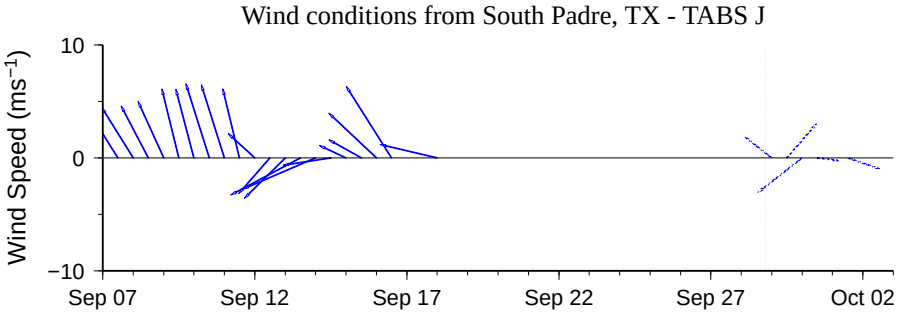
Recent MODIS Aqua imagery (9/27, shown left) is obscured by clouds along- and off-shore the Texas coast from Sabine Pass to South Padre Island, limiting analysis. Patches of elevated to high chlorophyll (2-20 μg/L) are present along- and offshore the Texas coast from Mustang Island to the Rio Grande.

Forecast models based on predicted near-surface currents indicate a maximum bloom transport from coastal sample locations of 80 km south from Pass Cavallo, 70km south from the Port Aransas region, 80 km south from PINS Mile Marker #15, and 110 km south from Brazos Santiago Pass from September 27 to October 1.

Derner, Lalime



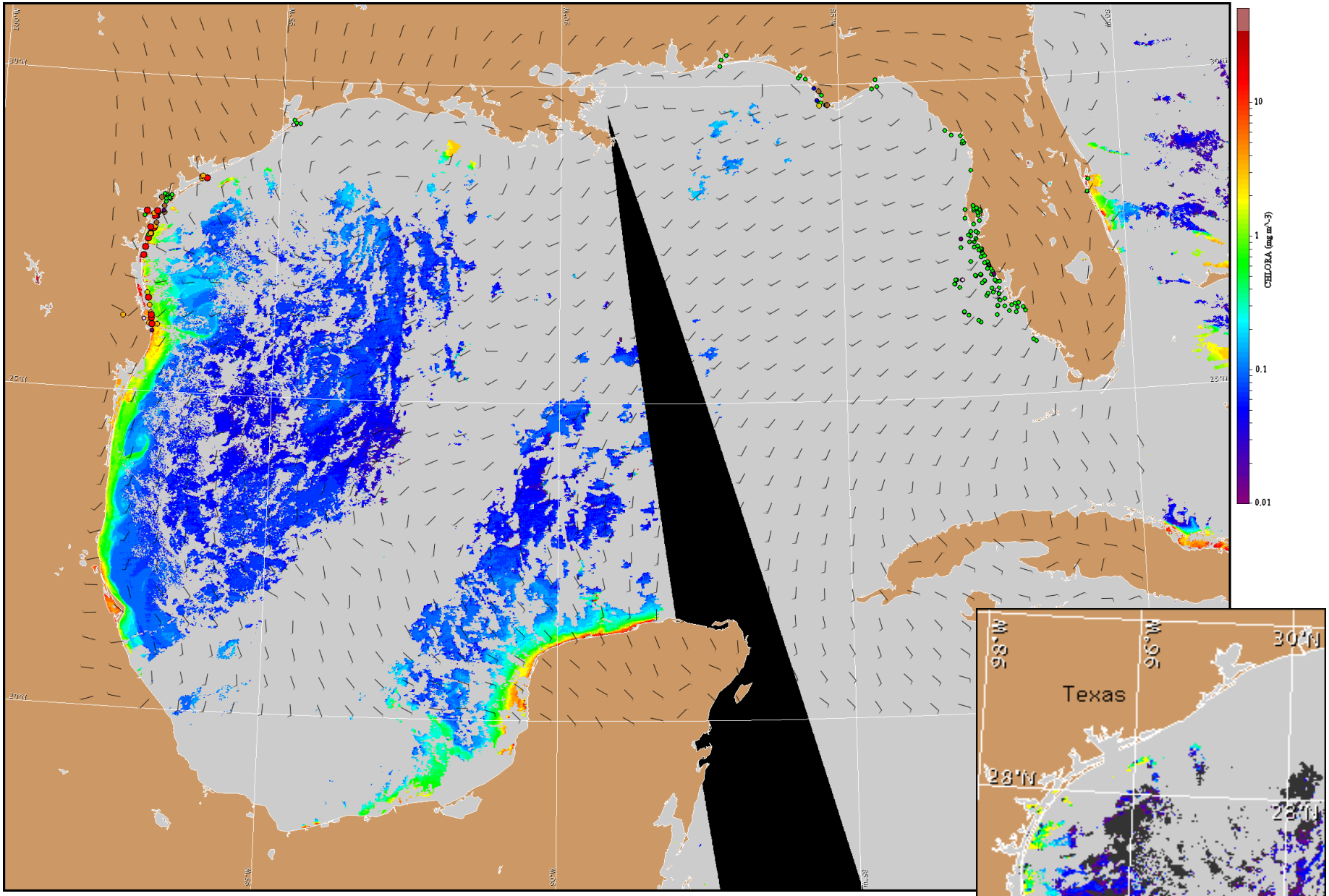
Wind speed and direction are averaged over 12 hours from buoy measurements. Length of line indicates speed; angle indicates direction. Red indicates that the wind direction favors upwelling near the coast. Values to the left of the dotted vertical line are measured values; values to the right are forecasts. Wind observation and forecast data provided by NOAA's National Weather Service (NWS).



Wind Analysis

Port Aransas to Baffin Bay: North to northeast winds (5-10kn, 3-5m/s) today through Wednesday. East winds (5-10kn) Wednesday night. North to northeast winds (5-10kn) Thursday.

Port Mansfield to the Rio Grande: Northwest winds (7-8kn, 3-4m/s) today becoming east (7-8kn) this afternoon. Southeast to southwest winds (7-14kn, 4-7m/s) tonight. West to north-northwest winds (7-13kn, 4-7m/s) Tuesday. Northeast winds (7-9kn, 4-5kn) Tuesday night. North winds (7-12kn, 4-6m/s) Wednesday. Northeast winds (7-12kn) Wednesday night through Thursday.



Satellite chlorophyll image and forecast winds for September 29, 2015 12Z with points representing cell concentration sampling data from September 18 to 28: red (high), orange (medium), yellow (low b), brown (low a), blue (very low b), purple (very low a), pink (present), and green (not present). Cell count data are provided by Texas Parks and Wildlife Department. For a list of sample providers and a key to the cell concentration categories, please see the HAB-OFS bulletin guide:

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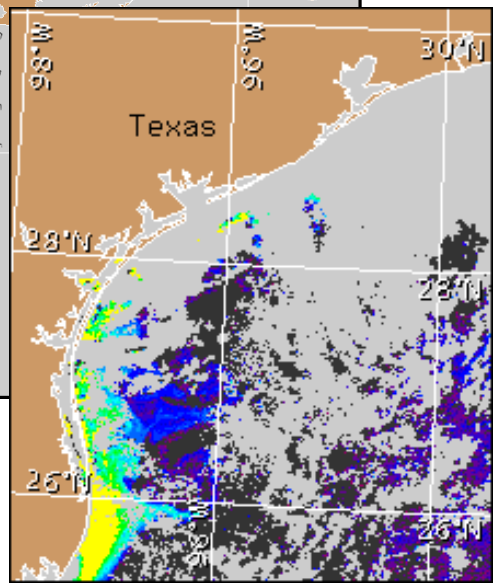

Verified and suspected HAB areas shown in red. Other areas of high chlorophyll concentration shown in yellow (see p. 1 analysis for interpretation).